

REMARKS

This responds to the Office Action mailed on October 23, 2006.

Claim 1 is amended, no claims are canceled, and no claims are added; as a result, claims 1-25 are now pending in this application. The amendments to the claims are fully supported by the specification as originally filed. No new matter is introduced. Applicant respectfully requests reconsideration of the above-identified application in view of the amendments above and the remarks that follow.

Support for the amendment to claim 1 may be found in the specification, for example, on page 3, lines 22-30.

Information Disclosure Statement

Applicant submitted Supplemental Information Disclosure Statements and a 1449 Forms on July 21, 2004, August 5, 2005 and October 3, 2005. Applicant respectfully requests that initialed copies of the 1449 Forms be returned to Applicant's Representatives to indicate that the cited references have been considered by the Examiner.

In the Specification

The specification is amended with the paragraphs beginning on page 2, line 11 – line 23, including the heading Summary of the Invention but before the heading Brief Description of the Drawings, being deleted. The specification is amended with paragraphs inserted beginning on page 3, line 16 before the original paragraphs beginning on page 3, line 16. The inserted paragraphs are from the specification as originally filed beginning on page 2, lines 15 – 23. No new matter is introduced.

First §102 Rejection of the Claims

Claim 1 was rejected under 35 U.S.C. § 102(b) for anticipation by Wycliffe (U.S. 4,988,581). Applicant traverses these grounds of rejection of these claims.

Applicant cannot find in Wycliffe a disclosure, a teaching, or a suggestion of a conductive system that comprises a substrate including semiconductor material, as recited in amended claim 1. In the Office Action, it is stated that the “Wycliffe reference discloses . . . a

substrate (i.e. anode 10 shown in Fig. 5, acts as a substrate for supporting additional elements).” Applicant submits that the anode of Wycliffe is a metal anode. *See, Wycliffe column 1, line 65 – column 2, line 14.* Applicant submits that Wycliffe does not teach each and every claim element of claim 1, that Wycliffe does not teach the identical invention in as complete detail as is contained in claim 1, and/or that Wycliffe does not teach each and every claim element arranged as in claim 1. Thus, Applicant submits that Wycliffe does not anticipate claim 1 and that claim 1 is patentable over Wycliffe for at least the reasons stated above.

Applicant respectfully requests withdrawal of these rejections of claim 1, and reconsideration and allowance of this claim.

Second §102 Rejection of the Claims

Claims 1-3, 6-7, 11-14, 17, 21, and 25 were rejected under 35 U.S.C. § 102(e) for anticipation by Rutherford et al. (U.S. 6,318,124). Applicant traverses these grounds of rejection of these claims.

Applicant reserves the right to swear behind Rutherford et al. (hereafter Rutherford) at a later date.

Applicant cannot find in Rutherford a disclosure, a teaching, or a suggestion of a conductive system that comprises a plurality of conductive structures embedded in a foamed material layer, where the foamed material layer has a surface that is hydrophobic, as recited in claim 1. In the Office Action, it is stated that “the ‘124 reference discloses . . . a plurality of conductive structures embedded in the foamed material layer (i.e. interconnect lines per col. 7, lines 15-22).” Rutherford at column 7, lines 4-27 (including the cited “col. 7, lines 15-22”) recites:

Substrates

The alkoxysilane containing composition is then coated on a substrate by any suitable art known method, including application by spinning, dipping or brushing to form a dielectric film on the substrate surface. Typical substrates are those suitable to be processed into an integrated circuit or other microelectronic device and are in the form of a wafer. Suitable substrates for the present invention non-exclusively include semiconductor materials such as gallium arsenide (GaAs), silicon and compositions containing silicon such as crystalline silicon, polysilicon, amorphous silicon, epitaxial silicon, and silicon dioxide (SiO₂) and mixtures thereof. The substrate optionally has a pattern of lines on its surface. The lines, when present, are typically formed by well known lithographic techniques

and may be composed of a metal, an oxide, a nitride or an oxynitride. Suitable materials for the lines include silica, silicon nitride, titanium nitride, tantalum nitride, aluminum, aluminum alloys, copper, copper alloys, tantalum, tungsten and silicon oxynitride. These lines form the conductors or insulators of an integrated circuit. Such are typically closely separated from one another at distances of about 20 micrometers or less, preferably 1 micrometer or less, and more preferably from about 0.05 to about 1 micrometer.

Applicant submits that the above quote from Rutherford indicates that in Rutherford's process an alkoxysilane containing composition may optionally be applied to a substrate having a pattern of lines that form conductors or insulators of an integrated circuit. However, Applicant submits that forming a alkoxysilane containing composition on a substrate having a pattern of lines does not disclose, teach, or suggest a plurality of conductive structures embedded in a foamed material layer. In addition, Rutherford cites at column 4, lines 4-11:

Accordingly, a number of methods for the preparation of nanoporous silica films on substrates are known to the art, as summarized in the "Description of the Prior Art", above. Such substrates optionally have raised lines on the surface receiving the nanoporous film and preferably are suitable for the production of integrated circuits, e.g., with optional electronic elements and conduction pathways placed under, over and/or adjacent to the nanoporous film.

Applicant submits that teaching conduction pathways under, over, and adjacent a nanoporous film does not disclose, teach, or suggest pathways embedded in a nanoporous film.

For at least the reasons stated above, Applicant submits that Rutherford does not teach each and every claim element of claim 1, that Rutherford does not teach the identical invention in as complete detail as is contained in claim 1, and/or that Rutherford does not teach each and every claim element arranged as in claim 1. Thus, Applicant submits that Rutherford does not anticipate claim 1 and that claim 1 is patentable over Rutherford for at least the reasons stated above.

For at least reasons similar to those discussed above with respect to claim 1, Applicant submits that independent claims 2, 3, 6, 7, 11, 12, and 13 are patentable over Rutherford. Applicant submits that claims dependent from independent claims 1, 2, 3, 6, 7, 11, 12, and 13 are patentable over Rutherford for at least the reasons stated herein.

Applicant respectfully requests withdrawal of these rejections of claims 1-3, 6-7, 11-14, 17, 21, and 25, and reconsideration and allowance of these claims.

First §103 Rejection of the Claims

Claims 4, 5, 15, 16, 18-20, and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rutherford et al.(U.S. 6,318,124) as applied to claims 1, 2, 3, 7 and 11 above, and further in view of Buchwalter et al. (U.S. 6,577,011). Applicant traverses these grounds of rejection of these claims.

Applicant does not admit that Buchwalter et al. (hereafter Buchwalter) is prior art with respect to the instant invention. Buchwalter was filed on 17 November 2000, while the instant patent application was filed on 25 August 1999. Buchwalter was filed as a continuation-in-part. However, Applicant cannot find any discussion in the Office Action regarding Buchwalter other than “[c]laims 4, 5, 15, 16, 18-20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rutherford et al. as applied to claims 1, 2, 3, 7 and 11 above, and further in view of Buchwalter et al. (U.S. 6,577,011).” Thus, without specificity, citing Buchwalter with respect to the abovementioned claims is improper.

For at least reasons similar to those discussed above with respect to claim 1, Applicant submits that independent claim 5 is patentable over Rutherford. Applicant submits that Buchwalter, as proffered in the Office Action, does not cure the deficiencies of citing Rutherford with respect to independent claims 1, 2, 3, 5, 7, and 11. Therefore, Applicant submits that the combination of Rutherford and Buchwalter, as proffered in the Office Action, does not teach or suggest all the elements of each of the independent claims 1, 2, 3, 5, 7, and 11 and that the independent claims 1, 2, 3, 5, 7, and 11 are patentable over Rutherford in view Buchwalter. Applicant submits that claims dependent from independent claims 1, 2, 3, 5, 7, and 11 are patentable over Rutherford in view Buchwalter for at least the reasons stated herein.

Applicant respectfully requests withdrawal of these rejections of claims 4, 5, 15, 16, 18-20, and 24, and reconsideration and allowance of these claims.

Allowable Subject Matter

Claims 10, 22, and 23 were allowed. Applicant acknowledges allowance of claims 10, 22, and 23.

In the Office Action, comments were made regarding claims 10, 22, and 23 and the contents of the art. Applicant respectfully submits that the relevant claims may be allowable for

one or more reasons in addition to and/or in alternative to those reasons identified in the Office Action. Applicant reserves the right to further address one or more aspects of the Office Action comments as may later be necessary or desirable.

Reservation of Rights

Applicant does not agree with one or more comments in the instant Office Action. However, Applicant has limited the discussion of the traversal of the Office Action rejections to such discussion as is necessary to efficiently expedite the prosecution of the abovementioned application. Applicant reserves the right to further address the comments of the Examiner at a later date if necessary. In the interest of clarity and brevity, Applicant may not have addressed every assertion made in the Office Action. Applicant's silence regarding any such assertion does not constitute any admission or acquiescence. Applicant reserves all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference. Applicant does not admit that any of the cited references or any other references of record are relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner's personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, Applicant timely objects to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03. Applicant reserves all rights to pursue any cancelled claims in a subsequent patent application claiming the benefit of priority of the instant patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 371-2157 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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By his Representatives,

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Date 23 January 2007

By

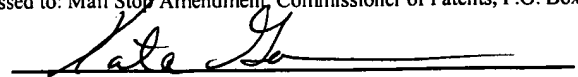


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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 23 day of January 2007.

KATE GANNON

Name



Signature